10 CFR 50.73

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION
P. O. BOX A
SANATOGA, PENNSYLVANIA 19464

(215) 327-1200 EXT. 2000

M. J. McCORMICK, JR., P.E.
PLANT MANAGER
LIMERICK GENERATING STATION

August 30, 1989

Docket No. 50-352
License No. NPF-39

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Licensee Event Report
Limerick Generating Station - Unit 1

This LER reports an event where a technician tested the incorrect instrument resulting in an automatic actuation of portions of the Primary and Secondary Containment system, an Engineered Safety Feature.

Reference:	Docket No. 50-352
Report Number:	1-89-048
Revision Number:	00
Event Date:	August 1, 1989
Report Date:	August 30, 1989
Facility:	Limerick Generating Station P.O. Box A, Sanatoga, PA 19464

This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(iv).

Very truly yours,

M. J. McCormick

DMS:sc

cc: W. T. Russell, Administrator, Region I, USNRC
T. J. Kenny, USNRC Senior Resident Inspector, LGS

IE22
1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Limerick Generating Station, Unit 1	0 5 0 0 0 3 5 2	1 OF 0 6

TITLE (4): This LER Reports an Event Where A Technician Tested the Incorrect Instrument Resulting in an Automatic Actuation of Portions of the Primary and Secondary Containment System.

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
0 8	0 1	8 9	8 9	0 4 8	0 0	0 8	3 0	8 9		0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 0 0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify, in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
C. R. Endriss, Regulatory Engineer, Limerick Generating Station	AREA CODE 2 1 5 3 2 7 - 1 2 0 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On August 1, 1989, at 0954 hours, various Unit 1 Primary and Secondary Containment isolation valves received isolation signals when a utility employed Instrumentation and Controls (I&C) technician incorrectly tested the Unit 1 'D' Refuel Area Ventilation Exhaust Duct Radiation Monitor instead of the Unit 1 'D' Reactor Enclosure Ventilation Exhaust Duct Radiation Monitor, during the performance of a Surveillance Test. Tripping of the incorrect monitor resulted in an automatic actuation of certain containment isolations, an Engineered Safety Feature (ESF), due to the unanticipated signal. The consequences of this event were minimal in that no radioactive material was released to the environment and no adverse consequences would have resulted had there been an actual refueling floor high radiation situation, since the isolations occurred as designed. The 'D' Refuel Area Radiation Monitor channel trip signal and the associated isolations were reset at 1038 hours. The duration of the isolation event was 44 minutes. The I&C technicians performing the testing were counseled regarding proper work practices and attention to detail.

Unit Conditions Prior to the Event:

Unit 1

Operating Mode 1 (Power Operations)

Reactor Power 100%

Description of the Event:

On August 1, 1989, at 0954 hours, various Unit 1 Primary and Secondary Containment isolation valves received isolation signals when a utility employed Instrumentation and Controls (I&C) technician tested the incorrect instrument. This resulted in an expected automatic actuation of an Engineered Safety Feature (ESF), however, the actuations that did occur were the result of an unanticipated signal.

During the performance of Surveillance Test (ST) procedure ST-2-026-621-1, "NSSSS Reactor Enclosure Ventilation Exhaust Duct Radiation-High; Division IIB, Channel D, Calibration/Functional Test," an I&C technician tested the Unit 1 'D' Refuel Area Ventilation Exhaust Duct Radiation Monitor (EIIS:IL) instead of the correct Unit 1 'D' Reactor Enclosure Ventilation Exhaust Duct Radiation Monitor as directed by the ST procedure. The I&C technician placed the Trip Test-Zero-Operate switch located on the radiation monitor to the zero position to initiate a channel trip signal. Immediately following this action, the local "Low" indicating light illuminated as anticipated, and the Main Control Room (MCR) annunciator "1 Reac Encl/Refuel Flr Vent Exhaust Rad Mon C/D Hi-Hi, Downscale" alarmed as expected, causing various Unit 1 valves to receive isolation signals. When the I&C technician was instructed by the ST to check voltage for the Reactor Enclosure Radiation Monitor and found no voltage present, he informed the MCR operators that there was a possible problem with performance of the ST. The MCR operators were unaware of an error since both radiation monitors share a common alarm and result in the same MCR indication. The technicians then reinspected their test set-up and discovered that the incorrect radiation monitor had been tested.

Tripping of the 'D' Refuel Area Radiation Monitor resulted in closure of the following Unit 1 "normally open" Primary and Secondary Containment isolation valves.

1. Primary Containment Atmosphere Sampling System (EIIS:BB) Isolation Valves: SV-57-141, 142, 143, 144, 145, 159.

2. Main Steam Line (EIIS:SB) Secondary Containment Bypass Leakage Barrier Block Valve, HV-41-143.

3. Recirculation Pump (EIIS:AD) Seal Secondary Containment Bypass Leakage Barrier Block Valve, HV-46-128.

Also, the following Unit 1 "normally closed" Primary Containment isolation valves received a signal to close and remained closed.

1. Drywell Line to 1B Hydrogen Recombiner Inboard Isolation Valve, HV-57-163.

2. Suppression Pool Line to 1B Hydrogen Recombiner Inboard Isolation Valve, HV-57-164.

3. Drywell Nitrogen Make-up (EIIS:LK) Line Isolation Valve, HV-57-116.

4. Suppression Pool Line From 1B Hydrogen Recombiner Outboard Isolation Valve , HV-57-169.

5. 1B Containment Hydrogen Recombiner Outboard Inlet Valve, FV-C-D0-101B.

In addition to the above actuations, the Unit 1 "normally closed" Nitrogen Purge to Air Secondary Containment Bypass Leakage Barrier Vent Valve, HV-57-167, opened.

Both the 'D' Refuel Area and the 'D' Reactor Enclosure Radiation Monitors actuate the same group of valves identified above, however, two additional valves would have been actuated when the 'D' Reactor Enclosure Radiation Monitor is tested. Prior to performing the ST, the I&C technicians are required to obtain permission from the MCR operators to begin the test. Therefore, all valve actuations initiated by this event were fully anticipated by the MCR operators.

Following the identification of the error, the 'D' Refuel Area Radiation Monitor channel trip signal was reset by the I&C technicians. The isolations were then reset in accordance with General Plant Procedure, GP-8 "Primary and Secondary Containment Isolation Verification and Reset," by the MCR operators at 1038 hours on August 1, 1989. ST-2-026-621-1 was subsequently performed satisfactorily on the 'D' Reactor Enclosure Radiation Monitor.

This event was recognized as reportable since an automatic actuation of an ESF occurred due to an unanticipated signal and the ESF actuated in a way that was not part of the planned test evolution. A four (4) hour notification was made to the NRC at 1320 hours on August 1, 1989, in accordance with the requirements of 10 CFR 50.72(b)(2)(ii). This report is being submitted in accordance with 10CFR 50.73(a)(2)(iv).

Consequences of the Event:

The consequences of this event were minimal in that no radioactive material was released to the environment as a result of the incorrect tripping of the 'D' Refuel Area Radiation Monitor.

No adverse consequences would have resulted had there been an actual refueling floor high radiation situation, since the isolations occurred as designed. Additionally, as stated previously, the MCR operators fully anticipated actuation of the valves associated with this event.

Cause of the Event:

The cause of this event was personnel error in that an I&C technician failed to properly identify the correct radiation monitor to be tested. The 'D' Refuel Area Radiation Monitor is adjacent to the 'D' Reactor Enclosure Radiation Monitor in the Auxiliary Equipment Room (AER).

Two I&C technicians were stationed in the AER and one technician was stationed in the MCR. As one technician in the AER read steps from the ST procedure, the other technician in the AER performed the steps. The technician reading the ST procedure did not visually observe or communicate to the technician performing the steps to verify that he selected the correct radiation monitor. To prevent confusion and errors during performance of this ST, only one technician is necessary in the AER to read and perform the ST, and one technician is necessary in the MCR to verify ST performance and to act as an interface with the MCR operators. The number of technicians necessary to perform a particular ST is determined by I&C supervision. The third technician was working with the other two I&C technicians on a previous ST which needed three technicians to perform. He later remained to assist with the performance of the radiation monitor ST, even though his participation was not necessary. The failure of the technician performing the test to read the procedural steps was a contributing factor in the cause of this event in that miscommunication or misinterpretation of the procedural steps occurred.

Corrective Actions:

Immediately after the I&C technicians in the AER discovered that the incorrect radiation monitor had been tested, they notified the MCR operators. The 'D' Refuel Area Radiation Monitor channel trip signal was reset by the I&C technicians and the isolations were reset in accordance with procedure GP-8 by the MCR operators at 1038 hours on August 1, 1989. The duration of the isolation event was 44 minutes.

Actions Taken to Prevent Recurrence:

The I&C technicians performing the testing were counseled regarding proper work practices and attention to detail. This event has been discussed at an I&C all hands meeting with emphasis placed on the need for attention to detail. This meeting occurred on August 18, 1989. Also, I&C has written a Human Performance Evaluation System (HPES) report, number 89-005 and a Plant Incident Tracking (PIT) report, number 89-75 which discuss this event. HPES-89-005 and PIT-89-75 were reviewed and closed by the Plant Operations Review Committee (PORC) on August 29, 1989.

Additionally, a letter from the Station Manager to all site personnel dated on August 8, 1989, addressed principles which all site personnel are to follow when performing work assignments in order to avoid personnel related errors. Implementation of these principles by site personnel in their normal work assignments should reduce the number of personnel errors including those similar to the error which resulted in this reportable event. Also, future training courses to all site personnel will include emphasis of the guidance in this letter.

Previous Similar Occurrences:

LER 89-024 Reported a condition where a craftsman worked on the incorrect valve.

Tracking Codes: A Personnel Error